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ON HYGROMETRICAL OBSERVATIONS.

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ALTHOUGH the attention of mankind has, in every age, been directed to meteorological phenomena; and physicians, from Hippocrates down, have always regarded them as constituting important influences which act upon animal bodies; yet it must be acknowledged that apart from those general effects, represented by the word *climate*, but little light has hitherto been thrown upon their operation, when considered as causes of disease. A multitude of facts have indeed been collected; but the philosophy of meteorology remains to be written. Observations have hitherto been chiefly confined to the winds, the temperature and pressure of the atmosphere, as indicated by the thermometer and barometer, while the hygrometrical and electrical conditions of the air have been almost wholly disregarded, although the mutable condition of the atmosphere, as it inclines to dryness or humidity, is the main source of all the variety of meteorological phenomena. My object, in this communication, is to call the attention of physicians to this subject, as one well worthy of investigation, calculated as it is to reflect much light upon the etiology of disease.

In the London and Edinburgh Philosophical Magazine for 1838, Mr. Hopkins, of Manchester, published some very interesting observations on malaria, as connected with the dew-point; attempting to prove that those diseases which have usually been attributed to a malarious or miasmatic principle, are in fact solely owing to the hygrometrical condition of the air. His views, though eminently ingenious, are by no means convincing, when we take into view all the facts connected with the causation of such fevers, as I shall attempt to show on another occasion. He seems, moreover, to take a very partial and limited view of the physical effects of a high dew-point, for he ascribes its influence entirely to its operation in checking evaporation from the surface of the body; whereas, its effect in preventing the disengagement of vapor and carbonic acid from the lungs, and its power of conducting vitreous electricity from the body, I have found to be vastly more important. A few remarks, by way of illustration, may not, perhaps, be out of place.

By the *dew-point* is understood that degree of temperature at which moisture begins to be deposited from the atmosphere, and this is usually determined by the hygrometer (which may therefore be called a measure

of moisture). The quantity of vapor, or invisible steam in the air, is constantly varying from variations in the temperature, though we often find it varying when the temperature continues the same. Warm air is capable of taking up, in the state of invisible vapor, more water than cold air. Thus a cubic foot of saturated air, at 32 degrees, contains of watery vapor 2.350 grains; at 60 degrees, 5.825 grains; at 70 degrees, 7.941 grains. When the air is nearly saturated, a very slight diminution of temperature is attended with the formation of dew; but if the air be dry, a body must be considerably colder before moisture is deposited upon it; in short, the dryer the atmosphere, the greater will be the difference between its temperature and the dew-point. Moreover, when the dew-point is but slightly below the temperature, evaporation goes on very feebly, but then it increases in proportion to the number of degrees between the two. The drying power of the atmosphere has been expressed by Dr. Dalton, in numbers, but it is only another form of expressing the energy of evaporation. The same philosopher has constructed a very valuable table of the elastic force of vapor at different temperatures, by which it appears, that while at 32 degrees it is only equal to 0.200, at 90 degrees it is equal to a pressure of 1.36 inches of mercury. The important physiological consequences growing out of this law will be obvious to all. It thus appears that the state of the dew-point must have far greater influence upon the animal economy, than all the other meteorological phenomena indicated by the thermometer and barometer, which, alone, have hitherto been regarded as chiefly worthy of the attention of physicians and naturalists in connection with the etiology of disease. It follows, of necessity, that a high dew-point interrupts, to a great extent, the ordinary and healthy functions of the skin and lungs, two of the most important organs in the body. It prevents the decarbonization of blood in the lungs, and the union of sufficient oxygen with the vital fluid to fit it for the various offices which it is destined to perform in order to maintain a healthy condition of the system.

An atmosphere, with a high dew-point, moreover, rapidly carries off the vitreous electricity from the body, which is doubtless intended to subserve a most important end as a vital stimulus. This appears, not only from the well-known, highly-conducting properties of an atmosphere charged with vapor, but also from the depressing influence of the Sirocco, which has a very high dew-point. In healthy climates, the average dew-point is usually some degrees below the temperature of the atmosphere, and it is very rare that the two coincide. When they do, the weather is called *close*, *sultry* or *muggy*, and its injurious effects upon the system are well known. The very color of the skin, to say nothing of the languor of the mind, and the debility of the muscular system, show that the blood does not undergo the proper change in the lungs. Highly malignant fevers rarely if ever prevail where the dew-point is below 60 degrees; nor does malaria ever act with sufficient intensity, as to produce remittent fevers of a highly bilious grade. The excessive fatality of tropical diseases, is, in all probability, owing to a dew-point of 70 or 80 degrees. From the observations of Dr. John Davy,

it appears that on removal from a temperate to a tropical climate—in other words, from a low to a high dew-point—the animal heat, or temperature of the body, is raised several degrees, which is doubtless owing to the fact that sensible transpiration carries off less heat from the surface than insensible evaporation. This predisposes to and doubtless excites fevers, and other forms of disease; and hence the utility of adopting a vegetable diet and the cooling regimen on visiting such countries. In tropical climates, the liver takes on a vicarious and increased action, in order to discharge from the system the extra proportion of carbon, which chiefly escapes from the lungs in temperate latitudes, where the dew-point is comparatively low. Blacks are less subject to fevers and other diseases incident to hot climates, because their skin is considerably modified in texture, so as to enable it to perform a greater extent of function than that of the white. Its thick and dark *rete-mucosum* enables it to exhale not only a larger proportion of water and carbonic acid from the blood, but it secretes a more unctuous fluid, which is believed to possess considerable influence in counteracting the effects of the sun's rays, and in carrying off the superabundant caloric—thus diminishing the heat of the body. In short, the negro skin is adapted to a high dew-point; removing from the blood the carbon, and other matters, which in the white are, to a greater extent, discharged through the lungs and the liver. By the process of acclimation, the skin of the white may, after a time, so far discharge this vicarious office, as to resist the influence of a high dew-point (which prevails at all times in very hot climates) and thus escape disease.

Now, as we can ascertain the quantity of vapor in the atmosphere by weight, by finding the dew-point, so also we can determine the quantity of vapor expired from the lungs, by the dew-point of the breath. From the table of Mr. Dalton, showing the elastic force of aqueous vapor at different temperatures, it appears that when the dew-point is 94 degrees, which is that of the breath both in summer and winter, the elastic force of vapor is 1.53 inches of mercury in the barometer; and as vapor is but five-eighths the specific gravity of air, it can be calculated that the vapor in the breath is about 1-31st part of the breath in weight. Accordingly, at a dew-point of 94 degrees, out of 31 pounds of breath expired, 30 pounds will be air, and 1 pound vapor. Of course, the quantity inspired is always much less than this, as the dew-point of the air in our climate sometimes falls below zero, and never rises above 80 degrees. As we can thus ascertain the exact amount of vapor inspired, at each dew-point, and also that expired, we have but to take the difference between the two, as the quantity evaporated from the lungs themselves. Mr. Espy has calculated that when the dew-point is 30 degrees, we evaporate from the lungs 1 pound of vapor for every 35 pounds of air which we breathe; and when the dew-point is 75 degrees, we evaporate from the lungs 1 pound for every 69 pounds; so that in summer, when the dew-point is very high, we evaporate from the lungs only about half as much as we do in winter, when the dew-point is very low.—(Espy.) Taking the average amount of air inspired, as 40 inches, at each inspiration, the

writer has calculated the following as the amount of vapor expired at the corresponding dew-points, within the space of twenty-four hours.

Dew-point.	Grs. of Vapor.	Dew-point.	Grs. of Vapor.	Dew-point.	Grs. of Vapor.
0 deg.	10.490	32 deg.	9.331	65 deg.	6.240
5 "	10.370	40 "	8.764	70 "	5.465
10 "	10.257	45 "	8.464	75 "	4.535
15 "	10.096	50 "	8.038	80 "	3.466
20 "	0.939	55 "	7.497	90 "	2.060
25 "	9.710	60 "	6.911	95 "	0.

Thus, while with a dew-point of 0 degrees we exhale from the lungs one pound six ounces and one drachm of watery vapor in twenty-four hours, with a dew-point of 90 degrees we exhale considerably less than half an ounce, and at 95 we exhale none at all.

The amount of carbonic acid given off by the lungs, I have found varies with the dew-point, in the same degree nearly as the amount of vapor. Of course the proportion is not exactly equal, for in that case, whenever the temperature and the dew-point coincided, suffocation would infallibly ensue. My experiments are not sufficiently advanced to give precise results, but they enable me to promise, at an early day, a table showing the exact amount of carbonic acid given off at each dew-point and degree of the thermometer. Then, by merely taking the dew-point, we can by consulting the table ascertain the exact amount of vapor given off by the skin and lungs in a given time, the proportion of carbon eliminated by the same organs, as well as the weight of vapor, in grains, in a given space of atmospheric air. These are items of some importance, at least, in estimating the predisposing as well as exciting causes of disease.

I have said nothing of the great amount of latent caloric which escapes from the lungs at a low dew-point. It appears, however, from a simple calculation, that the latent caloric contained in one pound of vapor, at the temperature of the breath, would be sufficient to heat 35 pounds of air about 130 degrees; and therefore the air which we breathe at the temperature of 32 degrees, brings out with it in the vapor alone sufficient caloric to heat it 130 degrees. If to this we add the number of degrees it is actually heated, from 32 to 98, it will appear that when we breathe air at 32 degrees, the lungs part with sufficient caloric to heat all the air we breathe 196 degrees. The ratio of the diminution of caloric, thus given off by the lungs, as the dew-point rises, may be obtained by a similar calculation (going on the supposition that no vapor is generated in the lungs by the union of oxygen and hydrogen). This must also be taken into account, as exercising no slight influence in predisposing to tropical as well as other diseases.

From some observations, I have satisfied myself that the dew-point of the breath falls much below the natural standard (94 degrees) in some diseases, as first suggested by Mr. Espy. There can be little doubt that this is the case in cholera and other diseases; and from the condensation of vapor upon the lungs which follows of necessity, the patient dies in a state of suffocation. If this be so, it is more than

probable that in certain low states of the system, as typhus fever, where there is little power of generating animal heat, death might be prevented by reducing the dew-point of the air, by raising the temperature. The attention of the faculty is particularly invited to this point.

The above remarks may suffice to indicate the views of the undersigned. It is highly desirable to obtain sufficient data to construct hygrometrical charts showing the mean monthly dew-point, in different localities, and in different parts of the United States, together with its greatest range. Through the kindness of Professors B. T. Joslin of the N. Y. University, and J. Renwick of Columbia College, I have been able to project such charts for Schenectady and this city, based upon observations taken by these gentlemen during several months of the year, which will hereafter be published. A comparison of these with charts based upon observations taken within the tropics, together with the hints above suggested, will enable the profession to decide whether I have exaggerated the effects of a high dew-point, when considered as a predisposing and exciting cause of disease.

*Directions.*—For taking the dew-point, Daniel's hygrometer is the most convenient, where it can be had; but as it is expensive, few physicians will perhaps be able to procure it. A very simple and equally accurate method is, to use a thin tumbler of tin, kept very bright and clean on the outside—and in the summer cold water, and in the winter snow or ice, and if necessary salt mingled with water—and when these are not at hand, a mixture of muriate of ammonia and nitrate of potash in equal quantities, pounded very fine, put into the tumbler with water. When dew settles on the tumbler it must be carefully wiped off, very dry, and the fluid within stirred with a thermometer—and this must be repeated until the fluid is gradually heated up by the air, so that the moisture ceases to settle; the highest temperature at which it will settle, is the dew-point. The observations should be taken twice a day, if possible, say at sunrise and 3 P. M. They should in all cases be connected with the temperature of the air, and the direction of the winds.

Should there not be time to take the dew-point in this way, take two thermometers that agree, cover one of them with a wet white rag, and swing them simultaneously in the air; when it is discovered that they cease to change by swinging, take 103 times their difference, and divide it by the wet-bulb temperature and subtract the quotient from the temperature of the naked bulb—the remainder will be the dew-point.—(*Inst. Amer. Phil. Soc.*)

My object at present is merely to invite the attention of physicians to this subject, as one which has hitherto been too much neglected. From the best information I can obtain, there is not a dozen hygrometrical registers kept in the United States; although, at the instance of the Surgeon-general of the U. S. Army, hygrometers have lately been sent to the different army stations. No measures, however, have been taken to supply such observations in the navy, from which still more important results might be expected.

HYGROMETRICAL AND THERMOMETRICAL OBSERVATIONS for the months of  
November, December, January, February and March, 1824, kept at  
New York, by Prof. J. RENWICK, LL.D., of Columbia College.

Day.	Hour.	NOVEMBER.				DECEMBER.				JANUARY.				FEBRUARY.				MARCH.			
		Therm.	Dew Pt.	Differ.	Wind.	Therm.	Dew Pt.	Differ.	Wind.	Therm.	Dew Pt.	Differ.	Wind.	Therm.	Dew Pt.	Differ.	Wind.	Therm.	Dew Pt.	Differ.	Wind.
1	9 a.m.	49.47	2		NW	55.51	4		NE	40.39	1		NW	40			E	36.32	4		NW
	3 p.m.	50.46	4			54.52	2		E	43.43	0		NE					44.42	2		W
2	9 a.m.	48.46	2			51.50	1		NE	32.20	12		NW	29.27	2		N	36.35	1		NE
	3 p.m.	52.48	4			54.52	2			22.21	1			16				44.44	0		
3	9 a.m.	35.44	9		NW	50.48	2			28.26	2		SW	18.18	0		W	44.40	4		E
	3 p.m.	40.47	7			54.51	3		E	31.30	1		NW	22.20	2			46.40	6		SE
4	9 a.m.	44.45	1			43.41	2		N	21.21	0		W	10.10	0			40.38	2		NE
	3 p.m.	46.47	1		SE	38.35	3			30.27	3		SW	24.32	-3			44.39	5		
5	9 a.m.	54.47	7		E	31.30	1		NW	25.24	1			31.29	2			44.41	3		N
	3 p.m.	51.50	1			34.32	2			35.34	1			26			SW	48.43	5		NE
6	9 a.m.	50.46	4		NW	37.29	8		W	29.27	2		W	40.38	2			45.41	4		N
	3 p.m.	50.47	3			44.30	14			28.25	3		NW				W	54.47	7		NW
7	9 a.m.	48.47	1			42.39	3			20.17	3			46.41	5		SW	42.41	1		N
	3 p.m.	52.48	4			40.39	1		SW	30.28	2		W					45.40	5		SE
8	9 a.m.	48.47	1		NE	32.30	2		W	32.31	1		NE	26.22	4		N	42.41	1		NE
	3 p.m.	53.49	4			38.36	2			37.35	2		S					46.42	4		SE
9	9 a.m.	51.47	4			29.28	1			40.38	2		SW	26.23	3		NE	43.42	1		N
	3 p.m.	48.44	4		SW	35.30	5			39.37	2		NW				NW	44.42	2		NW
10	9 a.m.	50.49	1		NW	36.35	1		SW	20.18	2		W	29.34	-6		SW	38.35	3		
	3 p.m.	54.45	9		SW	44.40	4			30.27	3						SW	46.40	6		
11	9 a.m.	45.44	1		W	44.43	1		NW	26.23	3		SW	41.38	3		NE	41.37	4		E
	3 p.m.	49.47	2			52.48	4		SW	38.35	3							48.44	4		
12	9 a.m.	48.44	4			40.39	1		E	30.27	3		N	38.35	3		N	50.46	4		SW
	3 p.m.	45.44	1			44.33	11			42.38	4			40.37	3			49.53	-4		
13	9 a.m.					48.47	1		SE	34.33	1		NE	39.39	0		W	49.45	4		NE
	3 p.m.	47.46	1		S	48.46	2			39.37	2		E	47.40	7		NW	59.52	7		SE
14	9 a.m.	42.44				35.33	2		NW	34.34	0		NE	40.35	5		E	49.47	2		N
	3 p.m.	50.50				38.36	2		W	36.35	1			44.38	6			56.49	7		SE
15	9 a.m.	50.48	2			32.31	1		NW	38.37	1		SW	36.35	1		NE	49.44	5		E
	3 p.m.	55.48	7			34.33	1			44.40	4			38.36	2			54.46	8		SE
16	9 a.m.	59.51	8			26.24	2		N	40.40	0		ENE	39.36	3		N	44.44	0		NE
	3 p.m.	66.50	16			34.33	1			43.39	4			44.40	4		W	46.45	1		E
17	9 a.m.	56.47	9		NW	29.28	1		NE	40.37	3		NE	34.28	6		S	60.54	6		
	3 p.m.	51.49	2			40.38	2		E	45.44	1		N	45.38	7			51			
18	9 a.m.	59.36	23			52.49	3		S	33.29	4		W	42.37	5		NW	54.52	2		NW
	3 p.m.	48.45	3		SE	56.53	3		SE	36.33	3		SW	44.40	4			52.55	3		
19	9 a.m.	49.48	1			40.40	0		W	36.35	1			34.30	4			44.44	0		
	3 p.m.	48.45	3			43.40	3			46.43	3			42.41	1			52.48	4		S
20	9 a.m.	41.36	5		N	35.34	1			30.27	3		NE	34.32	2			49.43	6		SW
	3 p.m.	50.49	1		W	41.40	1		SW	38.37	1		NW	36.32	4			62.54	8		
21	9 a.m.	43.37	6		S	31.29	2			36.35	1		W	32.31	1			48.45	3		N
	3 p.m.	54.51	3			42.41	1		NW	42.39	3		N	34.31	3			50.45	5		
22	9 a.m.	45.42	3		SW	34.34	0			27.20	7			34.32	2			36.34	2		NE
	3 p.m.	54.52	2			38.36	2			22				38.36	2			44.42	2		
23	9 a.m.	53.51	2			29.27	2			22.20	2		NE	37.37	0		N	40.37	3		NW
	3 p.m.	52.49	3			35.34	1			24.23	1		N	42.40	2			54.49	5		SW
24	9 a.m.	51.49	2			30.28	2		SW	20.19	1			35.32	3		W	53.44	9		W
	3 p.m.	54.52	2							33.29	4		NW	46.42	4		SW	60.54	6		NE
25	9 a.m.	47.44	3		N	36.38	-2			40.36	4			41.38	3			36.35	1		
	3 p.m.	53.51	2		NW	44.41	3		N	40.37	3			50.48	2		S	36.35	1		
26	9 a.m.	50.47	3		SE	35.33	2			38.34	4		S	38.36	2		SE	34.33	1		
	3 p.m.	54.52	2			40.39	1		SW	45.42	3		SW	38.33	3		NE	36.33	3		
27	9 a.m.	57.54	3		W	35.34	1			36.35	1		NW	32.29	3			46.42	4		NW
	3 p.m.	61.58	3		NE	45.42	3			44.42	2			30.30	0			46.41	5		
28	9 a.m.	54.52	2			36.34	2		NW	34.30	4		S	32.28	4		NW	38.32	6		
	3 p.m.	55.52	3			41.39	2		E	44.40	4		SE	40.35	5			40.34	6		N
29	9 a.m.	47.49	-2			35.33	2		W	39.38	1		W					38.34	4		NW
	3 p.m.	55.42	3			38.35	3			32.28	4		NW					46.40	6		SE
30	9 a.m.	50.49	1		E	38.36	2		SW	28.26	2							42.41	1		E
	3 p.m.	53.50	3			44.41	3			24								42.41	1		W
31	9 a.m.					38.37	1		W	29.33	-4		SE					60.50	10		
	3 p.m.					50.48	2			33								62.53	9		

HYGROMETRICAL AND THERMOMETRICAL OBSERVATIONS for the months  
of April, May and June, 1824, kept at New York, by Prof. J.  
RENWICK, LL.D., of Columbia College.

Days.	Hour.	APRIL.				MAY.				JUNE.				
		Therm.	Dew Pt.	Differ.	Wind.	Therm.	Dew Pt.	Differ.	Wind.	Therm.	Dew Pt.	Differ.	Wind.	
1	9 a. m.	45	41	4	NW	60	51	9	SW	67	57	10	S	Cloudy.
	3 p. m.	51	44	7	"	66	57	9	"	72	64	8	SE	"
2	9 a. m.	41	38	3	NE	50	46	4	NW	72	69	3	SW	"
	3 p. m.	44	41	3	"	53	50	3	"	73	61	17	SE	Fine.
3	9 a. m.	32			N	60	50	10	S	70			"	"
	3 p. m.	34			NW	64	53	11	"	80			"	Cloudy.
4	9 a. m.	43	41	2	"	53	48	5	NE	68	56	2	NE	Rain.
	3 p. m.	60	52	8	W	50	49	1	"	55			"	"
5	9 a. m.	56	45	11	"	60	50	10	SW	58			"	"
	3 p. m.	62	52	10	SE	63	54	14	W	62			SE	"
6	9 a. m.	56	45	11	SW	56	50	6	NW	74	65	9	NW	Cloudy.
	3 p. m.	63	53	10	W	66	55	11	SW	78	65	13	"	"
7	9 a. m.	51	45	6	NW	60	56	4	NE	78	65	13	"	Fine.
	3 p. m.	53	47	11	"	63	53	10	N	84	66	18	"	"
8	9 a. m.	51	44	7	NE	53	52	6	NE	82	64	18	W	"
	3 p. m.	60	46	14	E	60	51	9	S	86			"	"
9	9 a. m.	54	45	9	W	60	48	12	NW	83	65	18	"	"
	3 p. m.	68	55	13	SW	62	51	11	SE	88	64	24	"	"
10	9 a. m.	60	54	6	"	60	53	7	SW	85	64	21	"	"
	3 p. m.	66	58	8	NW	72	54	18	"	88	77	11	SW	"
11	9 a. m.	58	55	3	"	56	51	5	NE	87	67	20	W	Fair.
	3 p. m.	62	53	9	"	59	43	11	SE	90	68	22	SW	"
12	9 a. m.	46	41	5	W	59	50	9	SW	90	68	22	NW	"
	3 p. m.	50	44	6	"	66	54	12	S	92	78	14	SW	"
13	9 a. m.	48	46	2	N	62	48	14	"	80	63	17	NW	"
	3 p. m.	52	44	8	NW	69	53	16	E	86	76	10	W	"
14	9 a. m.	50	47	3	NE	60	52	8	NE	74	62	12	NW	"
	3 p. m.	54	47	3	NW	70	52	18	SE	78	66	12	W	"
15	9 a. m.	49	46	3	N	60	51	9	NE	79	69	10	E	Cloudy.
	3 p. m.	59	54	5	SW	64	50	14	"	82	63	19	"	"
16	9 a. m.	58	49	9	NW	66	59	7	SE	80	70	10	SW	Fair.
	3 p. m.	60	54	6	S	70	60	10	"	82	71	11	NW	"
17	9 a. m.	64	51	13	SW	62	59	3	"	72	62	10	NE	"
	3 p. m.	67	54	13	SE	62	60	2	"	78	66	12	SE	"
18	9 a. m.	64	55	9	W	70	60	10	"	76	70	6	"	Cloudy.
	3 p. m.	64			"	70	57	13	"	73	70	3	"	Rain.
19	9 a. m.	47	46	1	E	72	60	12	"	82	57	25	SW	Cloudy.
	3 p. m.	42			NE	74	62	12	"	84			"	Fair.
20	9 a. m.	48	46	2	"	66	53	13	"	78	69	9	NE	"
	3 p. m.	52	46	6	NW	70	55	15	"	84	71	13	"	"
21	9 a. m.	38	33	5	"	72	59	13	SW	90	76	14	SW	"
	3 p. m.	50	44	6	"	78	60	18	"	92	75	17	"	"
22	9 a. m.	49	45	4	"	67	51	16	NE	78	74	4	NW	"
	3 p. m.	59	52	7	NE	70			E	81	67	14	"	"
23	9 a. m.	60	48	12	"	70	55	15	SW	72	68	4	"	Cloudy.
	3 p. m.	68	52	16	SE	73			"	80	67	13	"	Fair.
24	9 a. m.	55	51	4	NE	74	59	15	"	71	70	1	E	Cloudy.
	3 p. m.	58	47	11	E	80	64	16	"	78	73	5	SE	"
25	9 a. m.	48	43	5	NE	78	63	15	E	70	69	1	E	"
	3 p. m.	50	47	3	"	66			"	77	74	3	SE	"
26	9 a. m.	56	54	2	SE	64	55	9	NW	78	70	8	W	"
	3 p. m.	62	53	9	"	72	56	16	"	78	69	9	"	Fair.
27	9 a. m.	63	57	6	W	67	54	13	"	72	64	8	NE	"
	3 p. m.	70	59	11	"	76	62	14	SW	76	63	13	SE	"
28	9 a. m.	64	53	1	NE	70	53	12	NW	74			"	Rain.
	3 p. m.	60	57	3	"	76	60	16	W	78	75	3	"	Fair.
29	9 a. m.	56	54	2	SE	66	55	11	NW	74	68	6	N	"
	3 p. m.	66	59	7	W	72	56	16	SW	80	70	10	W	"
30	9 a. m.	59	54	5	"	72	55	17	"	80	71	9	SE	"
	3 p. m.	62	54	8	SW	78	55	23	S	78	67	11	"	"
31	9 a. m.				"	74	56	18	SE				"	"
	3 p. m.				"	76	60	16	"				"	"

From accurate tables of this kind, we can readily form scales of the drying powers of the air at all temperatures that are found most conducive to health; and thus a moist or a dry atmosphere may be selected for invalids, as the case may require. At present, physicians in the choice of climate often err; and it is quite as common for a patient to be injured as benefited by the change. Such tables, also, would doubtless lead to new modes of prevention and cure. The amount of moisture in the air, in the apartment of the patient, might be increased or diminished, according to circumstances; the former by evaporating water, the latter by exposing hot salt, lime, &c., to absorb the moisture; for the dew-point would give the exact number of grains in a cubic foot of air. In this way we might imitate the climate of any country on the globe, and perhaps save our patients the necessity of leaving home and friends to suffer the discomforts of a strange land—too often to have their eyes closed by the hand of strangers.

Permit me to suggest, in conclusion, that such observations as may be taken be published, from time to time, in your valuable Journal. Every physician in the country may thus assist in collecting materials of vast importance to our science. Daniel's hygrometer, which is the only one on which any dependence can be placed, as it is the only one constructed on truly scientific principles, may be procured of Messrs. Benj. Pike & Son, opticians, No. 166 Broadway, N. Y. (price \$14.) Or a thermometer and a thin, polished tin cup, as I have remarked above, will answer nearly as well.

On the two preceding pages are some of the hygrometrical observations made by Professor Renwick in the year 1824, at the instance of Capt. Franklin, for the purpose of comparing them with similar observations made by himself during his expedition over land in search of the N. West Passage. As the instruments of Capt. F. were, however, broken at an early period of his travels, the plan was not carried into execution, and Professor Renwick's observations have hitherto remained unpublished. It is unnecessary to state that the utmost reliance may be placed upon their accuracy.

From the foregoing tables we obtain the following results:—

	Nov.	Dec.	Jan.	Feb.	March.	April.	May.	June.
Mean Temperature	49	39	33	35	46	55	64	78
Maximum "	66	56	46	50	62	70	80	92
Minimum "	35	26	20	10	34	32	50	55
Range	31	30	26	40	28	38	30	37
Mean Dew-point	40	36	31	33	42	48	53	69
Maximum "	58	53	44	41	54	59	64	78
Minimum "	36	24	17	10	32	33	46	56
Mean Difference	3.5	2.3	2.	3.	3.	6.8	11	13
Range	22	29	27	31	22	26	18	22

From observations made at the apartments of the Royal Society, London, 1838-9, we obtain the following results, which may be advantageously compared with the above for New York.

	Thermometer (mean).	Dew-point (mean).	Difference.	Extreme Range.
November	41 deg.	38 deg.	3.4	16
December	39	35	3.9	19
January	38	33	4.7	21
February	40	35	5.5	21
March	41	36	5.2	23
April	44	37	6.9	19
May	52	45	7.0	19
June	61	56	5.5	18

#### CASE OF ABSCESS OF THE LUNG, WITH ENLARGED AND TUBERCULOUS LIVER.

*To the Editor of the Boston Medical and Surgical Journal.*

SIR,—The following case possesses sufficient interest to entitle it to a place in some medical repository. The subject of it died the 23d of last month, aged 31 years. He was of middling stature, remarkably temperate in his food and drinks; but at his trade, which was that of a blacksmith, he performed an extra amount of labor, for which he received double the pay of other workmen in the same establishment. In the Spring of 1839 he returned to this, his native town, from the axe factory at Canton, Ct., in which he had worked for six or eight years, having the appearance of a man almost broken down from the effects of hard work. He soon began to recruit; so that for a year previous to the month of September last, he enjoyed a good degree of health, and was industriously engaged in agricultural employments. During the month of October last, he complained of pain in the left side of the chest, extending from the sternum around to the spine; but not to such a degree as to confine him to the house, or keep him from labor; and it was not till the second week in November that he took to the house. During his residence at Canton, he had become quite partial to the "Thomsonian practice of medicine;" so that up to the middle of Nov. he would not consent to have a *regular* practitioner called, "lest he should get a dose of calomel into him." Early in October a cough commenced, which increased in severity until the 15th of November; when during a severe paroxysm of coughing, he suddenly commenced raising from the lungs a heavy, dark-colored and exceedingly offensive matter, and in large quantity. This, to him, was evidence that the "stomach was out of order;" and he sent for a dentist, then in the village, who had read medicine, but who was partial to "lobelia," to come and give him an emetic. The doctor was satisfied that it was no case for him, and advised him to apply for more experienced aid.

On the 17th of November I first visited him. He was expectorating freely a dark-colored, purulent matter, and so foetid as to scent the whole house. There was considerable pain in the left region of the chest, which sounded dull over an extensive surface; breathing quick and laborious; pulse frequent; features sunken; countenance pale, and depicting much anxiety. The case at once developed itself. That he had suffered from a considerable degree of inflammation of the lungs, for

a number of weeks; that inflammation had resulted in the formation of a large abscess, which had suddenly burst; and that he was then almost constantly throwing up its contents, there could be no doubt. He then had no scruples as to taking *calomel*, if I thought necessary. After inserting a seton over the seat of the abscess, I prescribed the following: R. Tinct. actæ racemosa, ʒj.; tinct. sanguinaria canadens., ʒij.; tinct. digitalis and tinct. opii of each ʒj. in a dose of forty drops every four hours. Also the iodo-hydrargyri of potassium in a dose of 10 drops, to be increased gradually, every six hours. For a few weeks there was a manifest improvement in the pulse, and the condition of the patient in many respects was more comfortable; but still, little impression seemed to be made in diminishing the amount of matter expectorated. Early in December, at the suggestion of a practitioner of much experience, I put him upon the use of one eighth of a grain of corrosive sublimate in solution, with two thirds of a wine-glass of Carpenter's compound syrup of sarsaparilla, three times in the twenty-four hours. This served to keep his bowels regular, and his appetite rather improved; but the cough and expectoration did not improve; emaciation progressing rapidly; feet and lower limbs much swollen; pulse increasing in frequency; strength fast wasting; and it seemed as if his disease was rapidly approaching a fatal termination.

About the middle of December the patient discovered some unusual fulness of the bowels, but made no mention of it until about the 1st of January, at which time it had increased so as to be quite inconvenient, and by the 5th of that month he suffered so much from the distention, and so greatly was his respiration affected by it, especially when in a recumbent posture, that he was obliged to quit his bed and pass day and night in his chair. At this time his feet and legs were so much swollen that the skin gave way, and serum escaped in considerable quantity. After a few days passed in this situation, and becoming much exhausted, he again took to his bed, and by the aid of bolsters to keep the body considerably elevated he was enabled to pass the principal part of his time there. Instead of sinking rapidly into his grave, as we expected, a slight improvement was manifest in many of his symptoms; his condition became decidedly more comfortable; pulse less frequent; cough and expectoration diminishing; breathing more easy; effusion into the lower extremities lessening, and his appetite quite good:—but the enlargement of the abdomen gradually increased. For about three weeks I did not see him; but when I again visited him I was struck with the apparent improvement in his appearance; his countenance looked better; cough and expectoration nearly ceased; breathing tolerably easy; swelling of the feet and legs entirely gone; appetite abundant; pulse about 85 per minute; and but for the enlargement of the abdomen, which was now altogether the source of his greatest suffering, there seemed to be nothing in the way of his restoration to health. In one week more, his cough and expectoration had entirely ceased!

On examining the abdomen at this time, it was evident that it was the liver which was occasioning this great enlargement of that portion of his body; its lower margin could be distinctly traced far down in the right

lumbar region; from thence along midway between the umbilicus and pubis, and far around into the left lumbar region. Pressure upon it with the flat hand did not occasion pain, neither did the patient at any time complain of pain in the region of the liver. From the middle of February until the fifth of March, the subject of this disease remained free from cough and expectoration; respiration easy, but for the fulness of the abdomen and its encroachment on the cavity of the chest; appetite uncommonly good. About the time last mentioned, he expressed himself as having "taken a little cold;" there was a slight cough, which gradually increased, and was soon attended with an expectoration of purulent matter. From this time he failed gradually, with little apparent change in the condition of the abdomen, except that the enlargement increased until his death.

It may here be remarked that his appetite remained in an unusual degree during his whole illness, and that the regularity of the bowels was undisturbed. He had occasion to take a cathartic but once, during the period I visited him: and it was not until within the last ten days of his life, that the alvine discharges assumed a clayey appearance, or showed decided marks of a deficiency of bile.

Permission being granted, a post-mortem examination of the body was made the day following his death. The liver was one mass of tubercles, and enlarged in every part. A horizontal measurement from the top to the bottom of the right lobe was thirteen inches, and the transverse measurement from the top of the right lobe to the bottom of the left lobe was fifteen inches; and it weighed twenty pounds and one ounce! There was no other appearance of disease in this cavity. On raising the sternum, we found that air had escaped into the cellular membrane directly beneath this bone; and proceeding in the examination we found an abscess of the size of a robin's egg, situated near the external surface of the left portion of the lungs; and it was from this abscess, superficially situated, that air had escaped into the cellular membrane, and which was probably the occasion of a great increase in the sufferings of the deceased, during the last few hours of his life. It was from this abscess that the matter which he had expectorated during the few weeks preceding his death had originated. The whole left portion of the lungs was found extensively attached to the pleura, from the sternum round to the spine, and to the diaphragm below. On cutting into this lobe, suspended as it was by its unnatural attachment, a large abscess was found situated in its superior portion, and of a capacity sufficient to enable it to receive my entire fist! The extensive attachment of this lobe gave us a fine view, not only of the capacity of the abscess, but of its appearance; its internal surface had a membranous-like appearance, was smooth to the feel and was entirely healed. It was surrounded by a portion of the lung, which appeared in every respect healthy. The remaining portion of the lungs was in every respect healthy; there being no appearance of tubercles in either lobe.

The external appearance of the liver was similar throughout; neither did its internal appearance, when cut into, vary very essentially from its external, except that it was rather paler. The tubercles, when cut into,

presented a fatty appearance; in none of them was there any appearance of pus.

The foregoing narrative presents many interesting features:—the formation of so large an abscess; its being suddenly arrested, and this, too, when it had nearly completed its work and brought its victim to the grave; the sudden appearance and rapid progress of disease on the liver; the character of that disease; the diversion of disease from the lungs to this viscus; the perfect healing of so large an abscess; the monstrous enlargement of the liver; are among the more noticeable points in the history of this interesting and anomalous case.

JEHIEL ABBOTT.

Westfield, March, 1842.

## BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, MARCH 9, 1842.

### PHILADELPHIA COLLEGE OF PHYSICIANS.

ALTHOUGH this is a venerable institution, having been organized in 1786, it does not appear to be extensively known at present. A quarterly summary of the transactions, embracing November, December and January last, was received the other day, and has afforded us much satisfaction. In order to encourage and stimulate the members, it was resolved in June last to publish a regular bulletin—and this appears to be the first of the intended series. Dr. Parrish's report on surgery is a solid, well-digested paper, reminding the reader of his excellent father's mode of expressing useful thoughts. The paper by the same gentleman, entitled "Observations on the Change of Voice, following extirpation of the tonsils," also commends itself to careful perusal. Dr. Morris has an article of interest—"a case in which death resulted from an abscess behind the pharynx." Next, Dr. Ashmead communicates a "case of death from over-distention of the bowels, producing pressure upon the diaphragm to such an extent as to prevent respiration." It is impossible to convey a just idea of the value of the bulletin, without re-publishing its pages, which we intend doing to some extent when an opportunity is afforded. By circulating liberally this specimen of the deliberations of the members, this excellent Institution will become more generally known, and an impulse will be given to other minds which may need a quickening influence of some sort to rouse them into activity.

*Kentucky Lunatic Asylum.*—A Committee of the Kentucky Legislature has been looking into the statistics of their Asylum, which seems to require some remodelling to keep pace with the times. In 1840, Kentucky, according to the census, had 317 lunatics supported at public charge, and 516 at private expense. The Lexington Asylum must have wide openings in its walls, since 78 patients have eloped, out of 841, in 17 years, which is one in 11. Money seems to have been expended, but not precisely in the right manner to make the insane as comfortable as

they should be. The fact is, the Committee have stretched out their tentacula, by way of ascertaining the public sentiment, without being sufficiently bold in the cause of humanity. They speak of the advantages of a carriage for the use of infirm, delicate females—a chess-board, billiard-table, library, chapel, &c. Why were they not provided years ago? Board and meat seem to be regarded by many legislators as the extent of public bounty. The heaven is at work in Kentucky, and promises to eventuate in the production of a new system of things in the management of pauper lunatics.

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*College of Dental Surgery.*—A second annual announcement of this important Institution, has just been sent abroad. The next term, which is the regular lecture season, will commence at Baltimore the first Monday in November, and end the last of February. Long before November, we hope to present the claims of the College in such a light, that those who have any intention of becoming scientific operators in dentistry, will avail themselves of the manifold advantages of this first and only regularly constituted school of dentistry in America.

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*A New Medical Journal in Boston.*—It will be seen by an advertisement in to-day's Journal, that some preliminary efforts have been made with reference to the establishment of a quarterly Journal of Medical Science in this city, which, instead of exciting any alarm in regard to the effects it may produce on our own long-cherished periodical, has our best wishes for its success. The gentlemen who are to be the editors, are competent to conduct its course with dignity and renown. Once or twice within the last few years, attempts have been made in this place to usher into existence a new medical periodical, but some how they were smothered in embryo. The present enterprise, it is hoped, will succeed better. We never entertained an idea of monopoly in the way of Journalizing; the wonder is, how it happens that we have been, so many years, unmolested occupants of the field. Since there is room enough for more, and talent enough in this city and in New England to sustain half a dozen quarterlies, of the highest order, it only remains for the profession to continue their liberal patronage to the Boston Medical and Surgical Journal, and withal offer such pecuniary assistance as shall likewise place the contemplated quarterly on a firm foundation. Any facilities which we can offer through our own pages, towards forwarding the operations of the projectors, is cheerfully tendered to them.

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*Medical Doings in Cortland Co.*—When the account of the late medical county meeting in Cortland, N. Y., was transferred to the pages of the Journal, it was for the purpose of being commented upon, with a hope of making plain and comprehensible that which would to many at first sight appear obscure. So many contradictory statements have since poured in upon us, that we confess ourselves unable further to enlighten our readers. A correspondent, under date of February 21, asserts that the patient, whose treatment has been the bone of contention till all the neighboring profession are by the ears, is again in the Almshouse and very feeble. The limb, he says, has never been healed—and he intimates that an amputation may yet be necessary. In the midst of an abundance of recent

intelligence from the seat of war, we are positively more perplexed than ever, not knowing exactly what to believe. We do not doubt the veracity of any person—for with the very best intentions, and honesty of purpose, those on both sides are liable to be deceived. With these remarks we shall feel obliged, at present, to withhold any further comments, pro or con, touching the whole matter—wishing the belligerents a speedy return of peace, public confidence, and profitable practice.

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*Catalogue and Circular—Albany Medical College.*—This annual publication is neater in its general appearance than such kind of pamphlets commonly are. Besides the list of students lately in attendance, there are inserted the names of twenty-seven medical graduates, the present year, together with the rules and regulations of the Institution, cost of study and accompanying expenses in Albany, and a complete account of all the operations performed before the class—and they were many; and, finally, an account of the additions made to the museum. This circular presents a very satisfactory state of the College, which is creditable to the city in which it is located.

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*Sulphur-fume Baths.*—Dr. Durkee has fitted up an apartment at his Hospital in Howard street, with all the conveniences necessary for administering the sulphur and other medicated baths, according to the most approved methods. The confidence of the profession in the utility of these therapeutic agents in subduing various cutaneous diseases, as well as other chronic affections, is daily increasing; and yet but few physicians, in ordinary private practice, can find their account in supplying themselves with facilities necessary for the proper endermic application of the remedies to which we allude. It will, we presume, be interesting to those whose field of labor is not very remote from this city, to be apprised of the arrangement which Dr. D. has made at his establishment. His mode of applying the baths is in accordance with the recommendations laid down by Dr. Green, of London, in his valuable compendium of the diseases of the skin. The sulphur is brought in contact with the patient by a process of sublimation; and thus the patient has all the benefit which it is possible to receive from it without being subjected to the inconvenience of a partial suffocation, as sometimes happened under the old imperfect method of giving the baths in question.

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*Dental and Surgical Instruments.*—An opinion is entertained by some, that the manufacture of surgical and dental instruments has been brought to much greater perfection in Europe than in America; but this, we believe, is not well founded. There is no description of surgical operations, which, in their performance, require more finely tempered or highly finished instruments, than those that pertain to the teeth, and we have had frequent opportunities of comparing the instruments employed for the performance of these, manufactured at some of the first cutlery establishments in Europe, with those manufactured in this country; and for excellence, both of temper and finish, we have no hesitation in pronouncing the preference to be due to the latter. We have cutlers in Philadelphia, New York, Baltimore and Boston, whose skill in the fabrication of surgi-

cal and dental instruments, we believe, to be unsurpassed. For the procurement of these, therefore, there is now no necessity for sending abroad. We had a pair of lower molar forceps presented to us a few days since—and there is no dental instrument, in the manufacture of which cutlers have more frequently failed to produce such as were really good, than this—made by Messrs. Daily & Arnold, of Baltimore, that surpasses anything of the kind we have ever before seen.—*American Journal and Library of Dental Science.*

**TO CORRESPONDENTS.**—The communications of Drs. Dixon of New York, and Aldrich of Vermont, will be inserted next week.

Number of deaths in Boston for the week ending March 5, 61.—Males, 34; Females, 27. Stillborn, 4. Of consumption, 9—lung fever, 5—inflammation of the lungs, 4—intemperance, 1—croup, 6—scarlet fever, 10—infantile, 4—child-bed, 3—burn, 1—dropsy, 1—smallpox, 1—chronic diarrhoea, 1—accidental, 1—old age, 1—hooping cough, 1—teething, 1—disease of the heart, 2—debility, 2—marasmus, 1—erysipelas, 1—diarrhoea, 1—fits, 1.

## REGISTER OF THE WEATHER,

Kept at the State Lunatic Hospital, Worcester, Ms. Lat. 42° 15' 49". Elevation 483 ft.

1842. Feb.	THERM.			BAROMETER.			Wind, 2, P.M.	Weather, 2, P.M.	Remarks.
	Sun. P.M.	P.M.	Sun. A.	Sun. P.M.	P.M.	Sun. A.			
1 Tues.	29.33	33.33	29.32	29.45	29.57	N W	Fair	High wind—beautiful sunset.	
2 Wed.	24.42	39.39	29.76	29.62	29.60	S W	Fair	Aurora borealis. Zodiac light.	
3 Thur.	48.55	55.55	29.31	29.16	29.15	S W	Rain	Rain commenced at 4 A. M. High wind.	
4 Frid.	59.57	50.50	29.00	29.01	28.3	N	Fair		
5 Satur.	47.43	37.37	28.64	28.76	29.14	W	Fair	Thunder storm in the morning—rainbow.	
6 Sun.	28.42	42.42	29.56	29.45	29.36	S W	Fair		
7 Mon.	38.44	43.43	29.16	29.10	29.02	S W	Rain		
8 Tues.	33.37	28.28	28.92	28.85	28.86	S W	Cloudy	Snow squall at 4 o'clock.	
9 Wed.	4.16	18.18	29.36	29.50	29.49	W	Fair		
10 Thur.	24.45	42.42	29.45	29.50	29.53	S W	Fair		
11 Frid.	26.48	44.44	29.63	29.58	29.53	S	Fair	Aurora borealis.	
12 Satur.	44.49	43.43	29.22	29.30	29.43	N W	Fair		
13 Sun.	27.37	39.39	29.49	29.34	29.21	N W	Cloudy		
14 Mon.	40.43	30.30	28.92	28.68	28.92	N W	Fair	High wind.	
15 Tues.	6.19	22.22	29.37	29.52	29.60	N W	Fair	[sunk to 28.00 at night.	
16 Wed.	22.36	40.40	29.43	28.99	28.68	S E	Rain	Snow at 12 M.; rain at 2 P. M. Barometer	
17 Thur.	14.16	14.14	28.44	28.80	29.09	W	Cloudy	Snow squall and high wind in the night.	
18 Frid.	17.29	35.35	29.63	29.65	29.60	S W	Cloudy	Rain and high wind in the night.	
19 Satur.	50.41	30.30	29.10	28.95	29.18	N W	Cloudy	Rain commenced at 2 A. M. 1.13 inch fell.	
20 Sun.	17.25	28.28	29.70	29.76	29.72	N W	Fair		
21 Mon.	18.32	33.33	29.55	29.52	29.52	S W	Fair	Very pleasant winter weather.	
22 Tues.	20.36	36.36	29.50	29.44	29.42	N W	Fair		
23 Wed.	22.35	36.36	29.50	29.52	29.50	S W	Fair		
24 Thur.	31.45	41.41	29.51	29.53	29.55	W	Fair	Aurora borealis—halo around the moon.	
25 Frid.	28.33	28.28	29.90	29.95	29.95	W	Cloudy	Snow squalls and hail.	
26 Satur.	28.30	30.30	29.29	29.73	29.60	N E	Snow	Rain and hail during the evening.	
27 Sun.	30.37	38.38	29.28	29.26	29.26	N W	Fair	Fall of snow, 2.50 inches.	
28 Mon.	33.43	46.46	29.42	29.53	29.58	N	Fair		

This month has been unusually mild and pleasant. There has been no sleighing, and little rain has fallen. The fall of snow has not exceeded 3 inches. The barometer has ranged from 28.00 to 29.95; thermometer, from 4 to 57—mean 30.50—range 53. Rain fallen, 4.13 inches.

## NEW QUARTERLY JOURNAL OF MEDICINE AND SURGERY.

At the suggestion of numerous members of the profession in Boston and its vicinity, the subscriber proposes to issue a quarterly medical periodical, to be called "THE NEW ENGLAND QUARTERLY JOURNAL OF MEDICINE AND SURGERY." It is believed that ample materials, of sufficient interest and importance, exist, to support with credit both a weekly and quarterly medical journal in New England. With the approbation of the leading members of the profession in Boston, Charles E. Ware, M.D. and Samuel Parkman, M.D., have been engaged to conduct the editorial department. The warmest encouragement and promises of aid in its support have been given, and the medical faculty of Harvard University, as well as many of the more prominent practitioners of medicine and surgery in this city, have kindly allowed their names to be published in connection with the prospectus, as a testimony of their good will towards the undertaking.

It is proposed to commence the publication in July next, the No. for that month to be issued, if the encouragement is sufficient, as soon as convenient; and after that time the Nos. to appear regularly every three months. Each No. will comprise one hundred and fifty large octavo pages, making an annual volume of six hundred pages. Price \$3 per annum, payable on the receipt of the first No.

Boston, March 1, 1842.

D. CLAPP, JR., Publisher.

## DR. M'MUNN'S CELEBRATED ELIXIR OF OPIUM

Is a new chemical preparation of opium, embracing all the medicinal qualities in a natural state of combination, to the exclusion of those which are deleterious and useless. It is superior to every other form of opiate, such as Laudanum, Paregoric, Morphine, De-narcotized Laudanum, &c. &c., as has been fully proved and now duly acknowledged by the most eminent Physicians, Surgeons and Chemists, and a single trial will convince the most incredulous of its own intrinsic value. Its use is not followed by any of the disagreeable effects which invariably attend the ordinary preparations of opium, such as Constipation, Headache, Tremors, Nausea, and Vomiting; but it may be taken in sufficient doses to allay all suffering with perfect safety and entire success. All who, from necessity or other causes, are obliged to use an opiate, will find in the Elixir a most gratifying substitute, as it invigorates all the powers of nature, without being followed by a corresponding state of depression. Dr. A. W. Ives, A. M., of New York city, used nearly a hundred ounces himself during a very painful and protracted illness, after every thing else had failed to give relief. "His life was prolonged months by its peculiar virtues."

Particular attention is requested to the following testimonials from distinguished physicians.

*From Dr. Chilton, the eminent Chemist of New York.*

Dr. John B. M'Munn having made known to me the process by which he prepares his "ELIXIR OF OPIUM," and wishing me to state my opinion concerning it, I therefore say that the process is in accordance with known chemical laws, and that the preparation must contain all the valuable principles of opium, without those which are considered as deleterious and useless.

New York, December 29, 1836.

J. R. CHILTON, M.D., Operative Chemist, &c.

Having witnessed the effects of Dr. J. B. M'Munn's Elixir of Opium, we are of opinion that it is a valuable preparation, and recommend it to the patronage of the profession.

F. U. JOHNSTON, M.D., President of the Medical Society of New York, and Physician to the City and Marine Hospital.

JOHN W. FRANCIS, M.D., late Professor of Midwifery in the College of Physicians and Surgeons, N. Y.

JOHN C. CHEESEMAN, M.D., Surgeon to the New-York City Hospital.

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